

USSN: 09/560,170Attorney Docket No.: 117-P-1345US01

Remarks

Applicants thank the Examiner for extending to the undersigned attorney and applicant Levitt the courtesy of an applicant-initiated in-person interview on May 1, 2003. As required by the recent changes in MPEP §713.04 (eighth edition, revision 1), applicants are supplementing the substance of the interview in these Remarks. For ease of understanding, information relating to the interview is identified using the phrase "during the interview".

The Specification has been editorially amended. As recommended by the Examiner during the interview, claims 20 and 41 have been amended to recite topcoat stripping conditions. Antecedent basis for this amendment can be found in the Written Description at, e.g., page 4, lines 30-33, page 5, lines 16-19, page 8, line 33 through page 9, line 1, page 10, line 39, page 11, line 18 and page 14, lines 12-14. Claims 20 and 41 have also been amended by inserting the word "polymerized" before "topcoat" in line 3 of each claim, and claim 27 has been amended to recite that the "polymerized" topcoat "when coated alone atop a vinyl composite tile" has a strippability rating of 4 or less on a 7 point scale. Antecedent basis for these amendments can be found in the Written Description at, e.g., page 12, line 4 of the Table (Run No. 1-7) and in original claim 9.

Claim 41 has also been amended to recite that the topcoat contains "at least about 15 wt. % solids". A similar proposal was made for claim 20 in the May 16 Amendment After Final Rejection. The Advisory Action declined to enter that amendment partly on grounds that it was not "clear what type of solids level is disclosed in the Specification, i.e., weight percent solids or volume percent solids". Applicants respectfully disagree, and are submitting these comments at this time so that a similar objection will not be raised as to amended claim 41. Percent solids levels are traditionally recited as weight percent solids rather than volume percent solids, since solids can be measured much more accurately using weight rather than volume. Also, page 8, line 32 and page 9, line 6 describe formulations containing "20% solids" or "30% solids", which according to the text at page 8, lines 25-26 ("The invention is further illustrated in the following non-limiting examples, in which all parts and percentages are by weight unless otherwise indicated") means weight percent solids. The Specification does not make any reference to volume percent solids. A person of ordinary skill in the art will readily understand that all references in the Specification to "% solids" mean weight percent solids.

USSN: 09/560,170

Attorney Docket No.: 117-P-1345US01

The Advisory Action also declined to enter the May 16 Amendment After Final Rejection on grounds that "there is no support for a topcoat having more than 40% solids". Applicants respectfully disagree, and are submitting these comments at this time so that a similar objection will not be raised as to the amended claim 41. Example 3 describes two waterborne topcoat formulations containing about 47 % solids (see Formulation A and Formulation B in Table 3 at page 14), supporting topcoats having more than 40% solids.

New claims 47 – 51 have also been added. Antecedent basis for these new claims can be found in the Written Description at, e.g., page 8, lines 17 – 20 and in Table 3 at page 14.

Following entry of this amendment, claims 1 – 51 will be pending, with claims 1 – 19 and 28 – 38 having been withdrawn from consideration.

Rejection of Claims 20, 22-24, 27, 39 and 41-45 under 35 USC §103(a)

Claims 20, 22-24, 27, 39 and 41-45 were rejected under 35 USC §103(a) as being unpatentable over Published PCT Application No. WO 98/11168 (Hamrock et al.) in view of U.S. Patent No. 6,444,134 B1 (Holman et al.). The Final Rejection mailed March 17, 2003 acknowledged that:

"Hamrock et al. do not specifically teach that the radiation curable coating (i.e., the coating corresponding to the top of the claimed invention) is water borne or that it comprises water."

As explained during the interview, Hamrock et al. actually teach away from available finishes that are waterborne or that comprise water. For example, Hamrock et al. say that commercially available aqueous emulsion based floor finishes:

"typically comprise a relatively low solids content (e.g., about 15 – 35%)" (see page 1, lines 13-14)

and that:

"the available finishes have been less than completely satisfactory for several reasons. For example, when applying conventional floor finish compositions to the surface of a floor, several coating applications are typically required to obtain a finish with a suitable appearance. Each successive application of the composition must be dried before additional coatings are applied and/or before pedestrian traffic is allowed across the

USSN: 09/560,170

Attorney Docket No.: 117-P-1345US01

treated floor. The compositions are normally dried at ambient temperature and humidity in air, so that the drying time depends upon the air flow over the floor as well as the relative humidity of the air." (see page 1, lines 19-27).

Hamrock et al. thus say that available finishes are unsatisfactory due to their relatively low solids content, air drying requirement, and sensitivity of the drying time to air flow over the floor and relative humidity.

Hamrock et al. also make clear that their topcoats are based on 100% solids formulations: *"As mentioned, the second monomer(s) is added to a reaction mixture with the first monomer and polymerized to form the hard, durable, clear coatings of the invention, as is further described below. In the reaction mixture, the weight percentage of the second monomer is typically within the range from about 5 to about 90%, preferably from about 35 to about 70 wt% and more preferably from about 45 to about 65 wt%. The first monomer is present within the mixture at a concentration within the range from about 10 to about 90 wt%, preferably from about 25 to about 60 wt%, and more preferably from about 30 to about 50 wt%."* (see page 14, lines 3-10).

The first and second monomer thus account for 95 to 100% of the formulation. The other major ingredients are a photoinitiator (see page 14, line 11 through page 16, line 8) and the "Other Ingredients" discussed at page 16, lines 9-24. Hamrock et al. do not recommend adding water to their formulation. The Final Rejection has not identified any motivation for a person of ordinary skill in the art of floor finishes to alter Hamrock et al.'s topcoat to make it waterborne as recited in claim 20 or to make it comprise water and at least about 15 wt. % solids as recited in claim 41.

Resort to Holman et al. does not cure Hamrock et al.'s deficiencies. The Final Rejection asserted that:

"However, Holman et al. disclose a method of finishing floors wherein the floor may be coated with a water based finish including urethane and acrylic polymers and copolymers and crosslinking agents (Column 2, lines 1, lines 5-6 and Column 2, lines 3-5). Examples of the polymers include aliphatic urethanes, urethane/acrylic polymers and acrylic polymers and these polymers/copolymers are designed for high performance uses, where hardness, flexibility, UV resistance, chemical resistance and abrasion resistance are desired. One specific example of the urethane/acrylic copolymer is a high

USSN: 09/560,170

Attorney Docket No.: 117-P-1345US01

solids, radiation curable, water-borne formulation by the trade name of NEORAD 3709 (Column 4, lines 11-36).

"Accordingly, it would have been obvious to one having ordinary skill in the art to replace the radiation curable coating comprising a polyfunctional isocyanurate and a hydroxyalkyl acrylate, as taught by Hamrock et al., with a water based finish including urethane and acrylic polymers and copolymers and crosslinking agents given that Holman et al. specifically teach that such water-borne coatings exhibit high hardness, flexibility, UV resistance, chemical resistance and abrasion resistance."

Holman et al. describe a floor refinishing system meant to replace the sanding step that typically is required when completely removing and renewing the finish on a wood floor (see e.g., col. 1, lines 9-35). Holman et al. do this by etching the existing finish using a caustic solution (see e.g., col. 2, lines 30-38 and col. 3, lines 39-50), rinsing the etched surface and then applying a water-based coating composition. Holman et al. do not describe using a strippable intermediate coating under the water-based coating composition. Also, as noted by the Examiner, Holman et al. say that their topcoat has "chemical resistance" (Hamrock et al. also refer to the desirability of a "chemically resistant finish" in the "Background of the Invention" section (see page 2, lines 1-8)). As explained during the interview, chemical resistance normally is antithetical to strippability. The Final Rejection has not identified a motivation for a person of ordinary skill in the art of floor finishes to substitute Holman et al.'s topcoats for Hamrock et al.'s 100 % solids formulations and for such a person to expect that the substitution would provide a strippable coating as recited in claims 20 or 41.

The Final rejection also asserted with respect to claim 27 that:

"With regards to the limitation that the intermediate coating has a stripability rating of 6 or more on a 7 point scale and that the topcoat has a stripability of 4 on a 7 point scale, the Examiner takes the position that such limitations must be met by the coatings taught by Hamrock and Holman given that the chemical composition of theses coating and that of the claimed invention are identical."

For the reasons already mentioned above, the Final Rejection has not identified a motivation for a person of ordinary skill in the art of floor finishes to substitute Holman et al.'s topcoats for

USSN: 09/560,170Attorney Docket No.: 117-P-1345US01

Hamrock et al.'s 100 % solids formulations and for such a person to expect that the substitution would provide a coating having the strippability characteristics recited in claim 27.

Applicants accordingly request withdrawal of the rejection of claims 20, 22-24, 27, 39 and 41-45 under 35 USC §103(a).

Rejection of claims 26, 40 and 46 under 35 USC §103

Claims 26, 40 and 46 were rejected under 35 USC §103(a) as being unpatentable over Hamrock et al. in view of Holman et al. and U.S. Patent No. 5,571,570 (Lake). Hamrock et al. and Holman et al. are discussed above. Lake involves solvent-borne UV curable coatings (see, e.g., column 5, lines 3-18) for plastic and metal parts (see, e.g., column 2, lines 34-38). Lake says nothing regarding stripping such coatings. Strippability would not ordinarily be a desirable trait for durable coatings applied to plastic and metal parts (see, e.g., column 2, lines 39-45). Lake says that its coatings have "Chemical Resistance" (see the entries in Table 1, Table 2 and Table 3). Lake also says that separate application of a topcoat and a curing agent is disadvantageous (see, e.g., column 1, lines 15-17). This in effect teaches away from the use of multiple-layer coatings and the application of both an intermediate coat and a topcoat. The Final Rejection has not identified a motivation for a person of ordinary skill in the art of floor finishes to substitute Lake's coatings for Holman et al.'s topcoats or Hamrock et al.'s 100 % solids formulations or for such a person to expect that the substitution would provide a strippable coating as recited in claims 26, 40 and 46.

Applicants accordingly request withdrawal of the rejection of claims 26, 40 and 46 under 35 USC §103(a).

Rejection of claim 21 under 35 USC §103

Claim 21 was rejected under 35 USC §103(a) as being unpatentable over Hamrock et al. in view of Holman et al. and Published PCT Application No. WO 94/22965 (Koreltz et al.). Hamrock et al. and Holman et al. are discussed above. Koreltz et al. describe compositions for stripping "standard floor finishes and/or greasy residues from hard surfaces such as floors" (see, e.g., page 1, lines 5-8 and page 3, line 35 through page 4, line 2). For example, Koreltz et al.'s working examples show that "Citation" urethane sealant/finish from Buckeye International, Inc.

USSN: 09/560.170

Attorney Docket No.: 117-P-1345US01

can be removed using Koreltz et al.'s strippers (see, e.g., page 12, lines 12-18). Citation sealant/finish is relatively easy to strip, and can be used as an intermediate coating in applicants' invention (see, e.g., page 5, line 3). The Final Rejection has not identified a motivation for a person of ordinary skill in the art of floor finishes to combine Koreltz et al.'s stripping agents with Hamrock et al. and Holman et al. as proposed, and for such person to conclude that Koreltz et al.'s stripping agents could be used to remove polymerizable topcoats that are less strippable than an intermediate coating as recited in claim 21. Applicants accordingly request withdrawal of the rejection of claim 21 under 35 USC §103(a).

Rejection of claim 25 under 35 USC §103

Claim 25 was rejected under 35 USC §103(a) as being unpatentable over Hamrock et al. in view of Holman et al. and U.S. Patent No. 6,399,689 B1 (Scarlette et al.). Hamrock et al. and Holman et al. are discussed above. Scarlette et al. describe abrasion-resistant coatings containing aluminum oxide grain produced by a sol gel process (see, e.g., column 1, lines 42-48). Scarlette et al.'s Example 1 coating is sufficiently chemically resistant to withstand a 10 minute exposure to acetone (see, e.g., column 12, lines 14-28). The Final Rejection has not identified a motivation for a person of ordinary skill in the art of floor finishes to combine Scarlette et al.'s coatings with Hamrock et al. and Holman et al. as proposed and for such person to conclude that the resulting finishes would be strippable as recited in claim 25. Applicants accordingly request withdrawal of the rejection of claim 25 under 35 USC §103(a).

Conclusion

Hamrock et al. do not teach and in fact teach away from topcoats made using available finishes that are waterborne or that comprise water. Holman et al. describe a floor refinishing system that is not said to be strippable and that is said to be chemically resistant. Lake describes durable, chemically-resistant coatings for plastic and metal parts. Koreltz et al. describe strippers for conventional finishes of the type used by applicants as an intermediate coating, not strippers for topcoats that are less strippable than the intermediate coating. Scarlette et al. describe acetone-resistant coatings. The Final Rejection has not identified a motivation for a person of ordinary skill in the art of floor finishes to combine these references in the manner proposed.

USSN: 09/560,170Attorney Docket No.: 117-P-1345US01

Hamrock et al.'s 100 % solids formulations and for such a person to expect that the substitution would provide a coating having the strippability characteristics recited in claim 27.

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USSN: 09/560,170Attorney Docket No.: 117-P-1345US01

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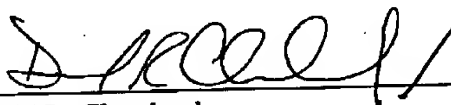
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USSN: 09/560,170Attorney Docket No.: 117-P-1345US01

Passage of the application to the issue branch is respectfully requested. The Examiner is encouraged to telephone the undersigned attorney if there are any questions regarding this application or any suggested further amendments.

Respectfully submitted on behalf of
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June 17, 2003

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